

Lego League Scorpacudas Research Project

THE PROBLEM AT BROOKLINE PUBLIC LIBRARY

(Scene opens with the librarian and 3 people looking through the stacks of books.)

Narrator: The setting is the Brookline Public Library. The Library is currently located in the former Methodist Church, a building originally constructed in 1859. In 1992, the building was renovated to house the Brookline Public Library. A wheelchair ramp and elevator were put in to meet the American's with Disabilities Act, known as ADA, requirements. This is a skit about a disabled person trying to get a book down from the shelf.

(A disabled person in a wheelchair enters the library and goes to the stacks)

Librarian: Welcome to the Brookline Public Library. Let me know if you need any help.

Disabled Person: Thank you. Can you tell me where the mysteries are kept?

Librarian: First shelf on the right.

(The disabled person finds that he can't reach the book he is looking for.)

Disabled Person: Excuse me, Ma'am, I can't get this book down. Can you help me?

(The librarian comes over to help but realizes that she can't reach the book either.)

Librarian: Oh my goodness, I can't reach it either.

(One of the patrons offers to help and he happens to work as an ADA inspector for the Department of Justice.)

Inspector: Hello, can I help you get the book down?

Librarian: Yes, even I can't reach that shelf.

Inspector: I happen to be from the Department of Justice and I inspect buildings for compliance with the ADA standard. I see that you have a wheel chair ramp, automatic door opener and an elevator. Everything seems to be in compliance but this patron still cannot get books from all of the shelves.

Librarian: Do you have any suggestions?

Inspector: No, unfortunately the ADA does not address this sort of problem so I don't know what to do.

(Another patron, a scientist, overhears the conversation and offers a solution.)

Scientist: Excuse me. I couldn't help overhearing that you are having a problem. I have been working on a robot that can help you. My Pick-n-Give robot can find the book, pick it off the shelf and give it to you. Let me show you how it works.

(While the scientist is describing the robot's design and structure, the robot character enters, takes the book from the shelf.)

Scientist: Tracks would be installed in the ceiling of the library between the stacks. A robotic arm would be programmed to find a book by scanning a bar code on the spine of the book.

Patron: How can the arm reach all of the shelves?

Scientist: The arm would be telescopic so that it could reach from the top shelf to the bottom shelf and everything in between. It could even take things off the floor if necessary.

Librarian: What if the book is really heavy? Some of our reference books weigh more than 10 pounds.

Scientist: That would not be a problem for this robot. It carries one book at a time but it can carry both large and small books of any weight up to 25 pounds.

Disabled Person: Wow! That's really great. So how does the robot know what to do with the book once it is taken off the shelf?

Scientist: The robot's program would interact with your current computer system. Either the librarian or a patron can search for a book on the computer and click on a retrieve button. The robot will bring the book to the computer that directed it to find the book. There is also a function that allows the person to select another location for the book to be delivered.

Librarian: That would certainly save me a lot of time!

Scientist: There are additional features that would really save you time. The robot can be used for inventory or to locate a book that has been misfiled. And, the robot can shelve the books that are returned.

(Robot gives book to disabled person.)

Disabled Person: Thank you!

Inspector: You know this robot could be useful in a lot of the buildings that I inspect.

Librarian: If we had this robot, anyone could get a book they wanted from any shelf and my job would be much easier but I'm concerned about how much it would cost.

Scientist: This robot is still in the development stage. We need a site to do some field-testing. If Brookline Public Library would be willing to be a test site for us, we could install the robot free of charge.

Inspector: I'm going to bring this information to the committee on ADA. The laws are changing and something like this may be required in the future.

Narrator: Even though the robot depicted has human form, a real library robot would not look like a person. The team will describe a possible library Pick-n-Give robot that could be implemented.